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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,529	03/17/2004	Sergey Zhidkov	2557-000226/US	2310
30593 7590 02/04/2008 HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 8910 RESTON, VA 20195			EXAMINER FOTAKIS, ARISTOCRATIS	
			ART UNIT	PAPER NUMBER
			2611	
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			02/04/2008	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/801,529

**Applicant(s)**

ZHIDKOV, SERGEY

**Examiner**

Aristocratis Fotakis

**Art Unit**

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12/18/2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 - 22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17 - 20 is/are allowed.
- 6) ☒ Claim(s) 1, 3, 9 - 10, 12 and 21 - 22 is/are rejected.
- 7) ☒ Claim(s) 2, 4 - 8, 11 and 13 - 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 9 – 10, 12 and 21 - 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Robinson (EP 1 221 793).

Re claims 1 and 10, Robinson teaches of a channel state measurement apparatus for a receiver (Abstract, Fig.6), comprising: a direct channel state measurement unit adapted to receive complex symbol streams (Paragraph 0064, 0086, #240, Fig.6), adapted to perform de-mapping on the complex symbol streams (demapping circuit, #240, Fig.6, Paragraph 0049) adapted to calculate an error signal (output from #246, Fig.6) based on the received complex symbol streams (positive input of #246) and de-mapped complex symbol streams (hard quantiser, negative input of #246) (#240, Fig.6, Paragraphs 0052 – 0055, 0064), and adapted to generate direct channel state information based on the calculated error signal (Paragraph 0064); an indirect channel state measurement unit adapted to generate indirect channel state

information based on a magnitude of a channel frequency response (Paragraphs 0065 - 0066, 0080, 0087, Fig.6, #320); a co-channel interference detection unit (comparison circuit #350) adapted to generate a channel state selection control signal (*selection*) based on the calculated error signal (CSI from #240) and the magnitude of the channel frequency response (CSI from #320) (Paragraphs 0088 - 0089, *detects the worse or poorer channel state*, see also Paragraphs 0003, 0005 and 0066); and a selection unit adapted to selectively output one of the direct channel state information and the indirect channel state information, based on a logic state of the channel state selection control signal (Paragraph 0088 - 0089, *selects the best channel state*).

Re claims 3 and 12, Robinson teaches of the indirect channel state information is a signal obtained by quantizing the magnitude of the channel frequency response with a uniform transfer function (limiter or clipper, #334, Fig.4, #352, Fig.6, Paragraph 0077).

Re claim 9, Robinson teaches of the receiver being a digital video broadcasting-terrestrial DVB-T receiver (Abstract).

Re claim 21, Robinson teaches of a channel state measurement apparatus for a receiver that provides channel state information in accordance with the method of claim 10 (Fig.6, Abstract).

Re claim 22, Robinson teaches of an apparatus for providing channel state information in a receiver in accordance with the method of claim 10 (Fig.6, Abstract).

### ***Allowable Subject Matter***

Claims 17 – 20 are allowed.

Claims 2, 4 – 8, 11 and 13 – 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Response to Arguments***

Applicant's arguments filed December 18, 2007 have been fully considered but they are not persuasive.

Applicant has submitted that Robinson fails to disclose or suggest generating a channel state selection control signal based on the calculated error signal and magnitude of the channel frequency response.

As discussed above, Robinson teaches of an indirect CSI measurement based on a magnitude of a channel frequency response and a direct CSI measurement based on a calculated error signal. A selector will select the output of whichever of the direct

and indirect CSI indicates the worse channel state condition. The indication of the worse channel state condition is the control signal that controls the operation of the selector.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aristocratis Fotakis whose telephone number is (571) 270-1206. The examiner can normally be reached on Monday - Thursday 7 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AF



CHIEH M. FAN  
SUPERVISORY PATENT EXAMINER